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Forestry Clubs for Young People

Suggestions for Leaders of Forestry Clubs Formed in Connection
with the Work of 4-H Clubs, Boy Scouts, Schools
and Other Organizations

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INTRODUCTION

This publication has been prepared primarily for the use of leaders of young people's forestry clubs. Its purpose is to suggest forestry activities suitable for groups of young people and ways and means of carrying on those activities. Not all of the activities given will be found suitable for any one club. Some are suitable only for clubs formed by boys and girls living on farms or in smaller towns; others are more suitable for young people living in the larger cities.

The information necessary for carrying on certain of the activities may be found in available books or in pamphlets issued by forestry associations, young people's organizations, State foresters' offices, or the United States Forest Service. For some of the other activities it will be necessary to seek advice from extension foresters, county agents, or forestry committees of local chambers of commerce, or Federal or State forest officers such as rangers, fire wardens, game wardens, etc.

The material in this publication is based on Forest Clubs for Young People, a mimeographed circular prepared by John D. Guthrie,¹ assistant district forester, United States Forest Service, Portland, Oreg., and part of it is the same. Helpful suggestions were also received from G. H. Collingwood, forester, American Forestry Association, W. R. Mattoon, extension forester, United States Forest Service, and others. Pictures in Figure 1 and Figure 2, B, used by courtesy of the Extension Service, Department of Agriculture.

¹ U. S. FOREST SERVICE, PORTLAND, OREGON. FOREST CLUBS FOR YOUNG PEOPLE. SUGGESTIONS ON ORGANIZATION, PURPOSES, ACTIVITIES, NAMES, TESTS, ETC. 9 p. 1928. [Mimeographed.]

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A. ORGANIZATION

I. SOME ORGANIZATIONS ALREADY FORMED

The forestry-club movement has extended to most parts of the country, and a large number of boys and girls are already enrolled. Such organizations as the 4-H Clubs, the schools, Boy Scouts, Girl Scouts, Girl Reserves, Camp Fire Girls, and De Molay are doing excellent work in tree planting and other activities.

EXAMPLES OF 4-H FORESTRY CLUB ACTIVITIES

The 4-H forestry clubs are perhaps the most important of the young people's forestry organizations. They, like all other 4-H activities, are sponsored by the extension services of the various State Agricultural Colleges cooperating with the United States Department of Agriculture. Their object is not necessarily to make foresters of their members but to equip them with the ability to appreciate the forest, to know how to handle the woodland on the farms on which they live, and to participate in reforestation and fire-prevention work. Membership in these clubs is open to both sexes, and in 1927 some 3,000 boys and girls enrolled in the 4-H forestry clubs of this country, about two-thirds of them completing the year's work.

1. *Wisconsin.*—In Wisconsin 4-H forestry work is done by clubs known as "Junior Forest Rangers." The organization of these clubs is under the direction of the State club leader and the county extension agents, and the material for study is prepared by the Wisconsin State extension forester. The activities of the various clubs are directed by the local club leaders.

A junior forest ranger is required—

1. To be a 4-H boy between the ages of 14 to 20 years, inclusive.
2. To complete the requirements outlined for the year in which he is enrolled.
3. To keep an accurate record of his work, on blanks provided for this purpose.
4. To make an annual exhibit of his work at a community fair or exhibition.
5. To make a summary of his activities for the year and file this, together with his report blanks, through his county extension agent, with the State club leader and the State extension forester.

The activities of the junior forest rangers cover a 4-year period, the boys in the various years being called, respectively, "ranger," "planter," "lumberjack," and "cruiser." The work undertaken each year is outlined below:

First year, "ranger"	Second year, "planter"	Third year, "lumberjack"	Fourth year, "cruiser"
<i>Tree identification</i> Exhibition collections.	<i>Nursery</i> Seed collections. Seed beds. Planting (windbreak) stock supplied from State nursery.	<i>Nursery</i> Seed bed. Planting stock supplied.	<i>Nursery</i> Transplanting. Planting own stock.
<i>Forest protection</i> Fire prevention Grazing.	<i>Forest protection</i> Patrol and reporting.	<i>Forest protection</i>	<i>Forest protection</i> Fire fighting.
<i>Seed collection</i> For following year. School-ground planting. (Possible collection of other forest products for sale.)	<i>Seed collection</i> For sale.	<i>Seed collection</i> For sale.	<i>Seed collection</i> For sale.
<i>Forest life</i> Insects. Fungi. Birds. Animals.	<i>Wood identification uses</i> Exhibit collection.	<i>Improvement cutting</i> (Wood-lot improve- ment.) Timber measuring.	<i>Improvement cutting</i> Estimating and map- ping.

2. *Louisiana*.—In Louisiana the State extension service has organized State fire-protection units consisting of 4-H club members. The boys enrolled in these units are known as "junior patrolmen" and receive pay from the State. They are paid in proportion to the area they have protected on condition that fire has been kept out of 90 per cent or more of the area they undertake to protect. If fire has been kept out of 99 per cent of an area, a bonus of \$25 is given for division among the junior patrolmen protecting that area. Ten per cent of the money allotted to a unit by the State goes into the treasury of the 4-H club to which the unit belongs.

Junior patrolmen are actually State fire wardens and are as responsible as any other State employees. They are given badges to distinguish them as such.

The Great Southern Lumber Co. of Bogalusa has done much to further the work of the 4-H forestry clubs in Louisiana. In 1928 it held a 4-H forestry club contest, giving over 75 prizes to boys gaining the largest number of points in fire protection and control, in 4-H activities, and in the accuracy, neatness, and completeness of the reports of their work. To enter this contest, club members must have protected at least 10 acres of woods from fire and must have built sufficient fire line to protect this area.

3. *New Hampshire*.—Another State in which 4-H forestry clubs are particularly active is New Hampshire. The work in this State was given a start by the splendid cooperation of the Society for the

Protection of New Hampshire Forests, which for several years has made available in the different counties prizes to the winners of the various forestry contests.

Forestry was adopted as a standard project by the New Hampshire 4-H organization in 1924, and enrollment in the forestry clubs has

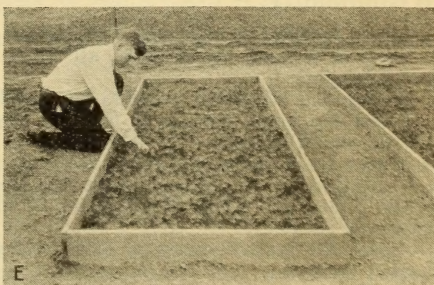
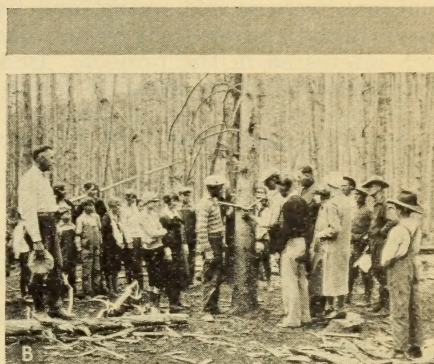


FIGURE 1.—4-H CLUB MEMBERS ENGAGE IN FOREST WORK

A, Preparing to plant pine seedlings; B, forestry club members scaling trees; C, setting out pine seedlings; D, studying tree growth with extension forester; E, weeding bed of 1-year northern white pine seedlings.

steadily increased. For the project year from October, 1926, to October, 1927, over 500 boys and girls enrolled for forestry. As a result 266 acres of woodland were improved, over 400 wood collections made, and 166,000 pine trees planted. The 4-H forestry work in New Hampshire includes wood lot improvement, tree and wood

identification, seed collection and nursery practice, and wood lot management.

One forestry club has released over 5 acres of young growing northern white pine by cutting overtopping gray birch. Another cut the same species and sold it for fuel wood. After the expenses were deducted the proceeds were turned into the club treasury. One 4-H boy planted 2,000 pine trees in one spring, and two other boys are improving 60 acres of woodland on their 80-acre farm. Girls also seem to be very much interested in the project. In 1926, each of two 4-H forestry girls planted 500 pine trees.

SOME OTHER STATE AND PRIVATE ORGANIZATIONS

1. *Maryland*.—A remarkably well-planned movement has been set afoot in Cecil County, Md., in the enrollment of boys as "junior foresters." The commission issued to members bears the signature of the State forester, and the examination and pledge are made in his presence or that of his deputy. To be eligible for this commission a boy must be 12 years old and a regular attendant at school (a few exceptions being made in favor of boys who have passed through the seventh grade and are working on farms.) He must also qualify in the following ways:

- a. Be able to identify 10 native trees, exclusive of domesticated fruit trees, by shape, bark, leaf, and fruit.
- b. Know the forestry laws of the State as outlined in a synopsis furnished by the State department of forestry.
- c. Know something of approved methods of fire fighting.
- d. Give the names, locations, and telephone numbers of the two forest wardens nearest his home.
- e. Submit an essay of 150 words on the value of trees to the community and the State.

In addition to the above he must have a fair standing in school work must be actively interested in athletics and outdoor sports, and must have a certificate of good behavior and character signed not only by one of his parents and his teacher but by two farmers living in his own community.

A junior forester is expected to—

- a. Keep a lookout for fires at all times, particularly during the months of extreme danger.
- b. Extinguish whenever possible any small fire he may find.
- c. Assist the forest warden in fighting large fires whenever this will not interfere with school duties.
- b. Watch for violations of forest laws.
- e. Call attention of persons destroying trees and shrubs to the law prohibiting this, and if they disregard warning, report to the forest warden and to the owner or tenant of property.
- f. Assist the State forester in distributing forest-fire warning signs whenever requested to do so.

The Maryland Department of Forestry furnishes junior foresters with its monthly news letter and with those of its publications that will help them in their work. For exceptionally meritorious service a junior forester will be eligible to honorary membership in the Maryland Forestry Association, and graduate junior foresters will be given first consideration in the selection of forest fire wardens.

2. *Wisconsin*.—Three hundred boys, members of the Boys' Technical High School of Milwaukee, Wis., have perfected an organization designated as "boys' tech forest service." The sole aim of the

organization is to foster, among the boys of this school, a constructive active interest in all forestry and conservation needs of Wisconsin.

Membership in the boys' tech forest service may be gained only by passing certain tests. These are based on the Forestry Primer² issued by the American Tree Association. Passing the test, the boy becomes a member of the service and obtains the rank of laborer. He next studies Part I of Pinchot's Primer of Forestry,³ which is issued as Farmers' Bulletin 173 by the Forest Service, United States Department of Agriculture, and may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C. By passing a test on this bulletin he obtains the rank of fire guard. The third test is based on Part II of the Primer of Forestry,⁴ Farmers' Bulletin 358, and advances the boy to the grade of assistant ranger. The fourth test includes such work as pacing 300 feet accurately, estimating and measuring diameters of 50 trees, identifying 20 common trees, and questions on the Tree Planting Book⁵ of the American Tree Association. Passing this test, the assistant ranger is promoted to the rank of ranger.

The next job is that of tree planting, and the completion of the planting of 10 trees, each as tall as he is, or 100 evergreen seedlings entitles the contestant to the grade of forest examiner. The names used for the grades are the same as those used in the United States Forest Service. Promotions may be secured only upon proof of accomplishment. There are 10 grades; the completion of the tenth makes the winner eligible for the position of chief forester and presidency of the organization.

3. *Washington*.—In Tacoma, a boys' forestry organization has been under way for several years. It was formerly known as the Boy Rangers Lodge, but at present is called the Independent Order of Rangers. A "boy ranger" in this organization is required—

- a. To know the wild life, trees, and forests of his State.
- b. To know how and when to protect them.
- c. To assist, as he can, the Government and State in the protection of the forests.
- d. To assist the State in its protection of wild life and in the observance of the game laws.
- e. To become a first-class woodsman or wooderafter.
- f. To pass strenuous physical tests.

II. ORGANIZATION PLAN

The plan of organization of forestry clubs will naturally vary with the local conditions, age of members, objectives, etc. In some cases it will be desirable to get up a formal organization with constitution, membership tests and requirements, officers, fixed meeting dates, dues, etc. Others will vary all the way to the extremely informal organizations, just getting together occasionally for a forest hike or a special project. The following are suggestions which may help in organization:

1. A suitable name.
2. A constitution or by-laws setting forth the objectives, etc., of the club.
3. A fixed meeting date, probably monthly.
4. An annual forest field day or picnic.

² PACK, C. L. THE FORESTRY PRIMER, 1876, 1926. 32 p., illus. Amer. Tree Assoc., Washington, D. C. 1926

³ PINCHOT, G. A PRIMER OF FORESTRY. U. S. Dept. Agr. Farmer's Bul. 173, 48 p., illus. 1903.

⁴ PINCHOT, G. A PRIMER OF FORESTRY. PART II. PRACTICAL FORESTRY. U. S. Dept. Agr. Farmers' Bul. 358, 48 p., illus., 1909.

TREEPLANTING BOOK. 40 p., illus. Amer. Tree Assoc., Washington, D. C.

5. Provision for *real forest activities*, doing something in the woods.
6. Active participation in Forest Week and Arbor Day.
7. Selecting some grown person, of suitable ability and experience, to act as mentor or guardian.
8. Certain tests or requirements as a prerequisite to membership. These should pertain to some phase of forestry or protection, such as the following:
 - a. Properly locating, building, and putting out a camp fire.
 - b. Identifying or describing a definite number of local forest trees.
 - c. Giving the name and location of the nearest national forest or State forest, or both.
 - d. Giving the principal causes of forest fires.
9. It might be desirable to set up several "degrees" in the club, to be attained by the members as they become more proficient in forestry matters. The following or titles like them might be adopted:
 - a. Tenderfoot or junior forester, for new members.
 - b. Forest scout; for passing tests in rudimentary or intermediate forest knowledge.
 - c. Wooderafter; for those exceptionally proficient in forestry knowledge.
 - d. Forester; for those members who have passed the other degrees and have rendered special service in practical forest protection.

The foregoing are merely suggestive, and would be varied to meet local needs and conditions.

III. NAME

In instances where the group desiring to take up some phase of forestry work is already organized, as the 4-H clubs, Boy Scouts, De Molay, etc., no additional name is necessary other than forestry chapter, patrol, or committee. Where the group is unrelated to any organization, however, a name should be selected. The average group will probably prefer to have either the word forest or forestry in its club name, and will choose some such designation as—

1. Junior Forestry Club (of Blankville).
2. Junior Forest League.
3. Boys and Girls Forest Protection League.
4. Junior Forestry Association.
5. Forest Scouts.
6. Junior Woods and Trails Club.
7. Wooderafters League.
8. David Douglas Club (Roosevelt or the name of some other eminent conservationist may be substituted).
9. Forest Pioneers Club.
10. (Blankville) Forest Hiking Club.
11. (Blankville) Forest Camping Club.
12. (Blankville) Forest Study Club.

IV. SPONSORS

Every club should, if possible, have some mature organization, interested in the welfare and progress of the club, to act as its sponsor. 4-H clubs, of course, work directly under supervision of the extension services of the State agricultural colleges and the United States Department of Agriculture. The forestry committee of the local chamber of commerce or some civic or luncheon club such as the Rotary, Kiwanis, or Lions, may act as sponsor. It will usually be possible to find some group of public-spirited men to act in this capacity and to assist the club in carrying on its work. It may be that the club will be organized among high-school students, in which case it would take its place as one of the regular school activities and conform to school requirements as to organization and procedure.

B. ACTIVITIES

[Suggestions for Study and Projects that May be Carried on by Forestry Clubs]

I. TREE STUDY

1. HOW THE TREE GROWS

Learn the different parts of the tree.

How are they used by man?

What are the functions of each?

How does a tree grow in height? How in diameter?

What is the food of the tree?

Where and how is it obtained?

How does the sap move?

How is the food of the tree assimilated?

What is meant by transpiration and respiration?

2. INFLUENCES AFFECTING TREE GROWTH

What is the influence of light on trees?

What is meant by tolerance and intolerance of trees; self-pruning?

What is the difference between trees grown in the forest and those grown in the open?

How does temperature affect trees in the forest?

Does soil have any influence on tree growth?

What part does moisture play in the life of a tree?

Do all species require the same amount?

3. TREE IDENTIFICATION

Learn to identify all of the various tree species found in your locality.

Do hardwoods or conifers predominate?

What trees leaf first in the spring?

In what order do others follow?

What trees bear fruit in the spring?

Which species have winged seeds; pods; nuts?

What other forms does the fruit of forest trees take?

Make a calendar of the leafing, flowering, and fruiting of forest trees. Collect cones, nuts, foliage, bark, and wood specimens of local trees. Make an exhibit of them for the school library, accompanied by appropriate posters.

4. MATERIAL SUITABLE FOR STUDY AND REFERENCE

Title	Author	Publisher and place of publication
A Primer of Forestry. (Parts I and II, Farmers' Bulletins 173 and 358.)	Gifford Pinchot.....	Department of Agriculture. Price, 5 cents. ¹
Trees in Winter; Their Study, Planting, Care, and Identification.	A. F. Blakeslee and C. D. Jarvis	The Macmillan Co., New York.
Important Forest Trees of the Eastern United States. (Department Circular 223.)	Compiled by Forest Service.	Department of Agriculture. Price, 5 cents. ¹
Southern Woodland Trees.....	J. B. Berry.....	World Book Co., Yonkers, N. Y.
Western Forest Trees.....	do.....	Do.
Northern Woodlot Trees.....	do.....	Do.
Tree Habits; How to Know the Hardwoods.	J. S. Illick.....	American Nature Association, Washington, D. C.
A Guide to the Trees.....	A. Lounsberry.....	F. A. Stokes Co., New York.
Field Book of American Trees and Shrubs.	F. S. Mathews.....	G. P. Putnam's Sons, New York and London.
Trees; a Simple Guide for Quick Identification of Forest Trees. (Pocket-size volume.)	O. L. Sponsler.....	G. Wahr, Ann Arbor, Mich.
The Tree Book.....	I. McFee.....	F. A. Stokes Co., New York.
The Forest: A Handbook for Teachers. (Miscellaneous Circular 98.)	D. P. Edgerton.....	Department of Agriculture. Price, 30 cents. ¹
Handbook of Coniferae, including Ginkgoaceae.	W. Dallimore and A. B. Jackson.	Longmans, Green & Co., New York.
State tree guides. (See section D.)		

¹ Publication may only be obtained by purchase from Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices indicated.

II. GENERAL FORESTRY

1. THE FORESTRY NEEDS OF THE NATION

Study of conservation movement in the United States.

What is the Federal Government doing toward the advancement of forestry?

What are the national forests; where located?

Are there any in your State?

2. THE FORESTRY NEEDS OF THE STATE

What is the State doing toward the advancement of forestry?

Has it a forestry department?

Is the State cooperating with the Federal Government under the Clarke-McNary Law?

How many State forest reservations are there? Where located?

3. THE FORESTRY NEEDS OF THE COMMUNITY

Does your community obtain its wood supply locally or from outside sources?

Is there much demand for wood?

Are there community or town forests that can wholly or in part supply this demand?

Is there need for planting in parks, streets, along roadsides, in school grounds?

Is there need for tree windbreaks or shelter belts in your locality?

Is there need for decorative planting around country homes?

If possible, make a club project of planting for any of these purposes; of planting and maintaining a club tract; of maintaining a forest nursery. (See city park department or State forester for information as to species to plant and for obtaining planting stock.)

4. FARM WOODLANDS

Are there many farm woodlands in your locality?

Are the woods of native or planted trees?

Where located on the farm?

What wood products do the farmers use?

Where are the best markets for the surplus timber products?

5. THE MANAGEMENT OF FARM WOODLANDS

Select one or more tracts of woodland for club study, taking one at a time.

Make a map of each tract.

Estimate the amount of standing timber.

(See instructions contained in Farmers' Bulletin 1210, Measuring and Marketing Farm Timber.)

What species are represented on each tract?

Arrange them in the order of their value.

Which ones predominate in abundance?

Are there many young trees in the woods?

How many different age-groups of trees can you distinguish?

What species have the most young growth or reproduction?

Have the woods been grazed?

Have either the reproduction or the larger trees been injured by grazing?

Are the woods protected from fire?

If not, outline a scheme for fire protection.

When were the trees last thinned?

If they need thinning and the owner is willing, the club can make an improvement thinning. First consult the county agent, the extension forester, or the State forester about what to cut out, method of cutting, time of harvesting, and value and uses of the products to be obtained. Products can be sold by owner and an allowance made to the club for its work. If the cutting is done near Christmas, a thick stand of young conifers can be beneficially thinned for Christmas trees. Before being sold these should be tagged to show they were properly and legally cut.

6. CUT-OVER FOREST LAND

If there is cut-over land in your county make a trip to some of it. Look it over and determine the following points:

Have any seed trees been left to provide for a future crop?

Is the land coming back to young timber?

Can you distinguish the young tree seedlings from the weeds and shrubs? (Look carefully for the smaller seedlings.)

Is the land being protected from fire?

Should it be? Why?

What is the best way to make this cut-over land pay taxes and produce prosperity in the years to come?

Is it better suited to farm land or timber growing? Why?

Write a story for the local paper on the findings of the trip.

7. INJURIOUS INSECTS, FUNGI, AND DISEASES

Are there signs of destruction by either insects or disease in the woods or forests in your locality?

Clubs in the white-pine regions should help to eradicate wild currant and gooseberry bushes which harbor the spores of the white pine blister rust.

Make a collection of insects which do local damage. Mount, identify, and exhibit this collection.

Make and exhibit a similar collection of local forest fungi or tree diseases.

8 MATERIAL SUITABLE FOR STUDY OR REFERENCE

Title	Author	Publisher and place of publication
The Fight for Conservation----- Timber: Mine or Crop? (Yearbook Separate 886.)	Gifford Pinchot----- W. B. Greeley, E. H. Clapp, H. A. Smith, R. Zon, W. N. Spar- hawk, W. Shepard, and J. Kittredge, Jr.	Doubleday, Page & Co., New York. United States Department of Agri- culture, Washington, D. C.
Idle Land and Costly Timber. (Farmers Bulletin 1417.)	W. B. Greeley-----	Forest Service, United States De- partment of Agriculture, Washing- ton, D. C. Price 5 cents. ¹
America and the World's Woodpile. (De- partment Circular 21.)	R. Zon and W. N. Spar- hawk.	Forest Service, United States De- partment of Agriculture, Washing- ton, D. C.
Forest and Floods. (Department Circular 19.)	Ward Shepard-----	Do.
Why Grow Timber? (Miscellaneous Publication 26.)	W. N. Sparhawk-----	Do.
How the Public Forests are Handled. (Yearbook Separate 847.)	H. A. Smith-----	Forest Service, United States De- partment of Agriculture, Washing- ton, D. C. Price 5 cents. ¹
Government Forest Work. (Department Circular 211.)	-----	Forest Service, United States De- partment of Agriculture, Washing- ton, D. C.
Trees as Good Citizens-----	C. L. Pack-----	American Tree Assn., 1214 Sixteenth Street NW., Washington, D. C.
Trees for Town and City Streets. (Farm- ers Bulletin 1208.)	F. L. Mulford-----	Department of Agriculture, Wash- ington, D. C.
Planting and Care of Street Trees. (Farmers Bulletin 1209.)	-----do-----	Do.
Planting the Roadside. (Farmers Bule- tin 1481.)	-----do-----	Do.
The Principles of Handling Woodlands-- Farm Woodlands-----	H. S. Graves----- J. B. Berry-----	J. Wiley & Sons, New York. World Book Co., Yonkers, N. Y.
The Farm Woodlot: A Handbook of Forestry for the Farmer and the Student in Agriculture.	E. G. Cheyney and J. P. Wentling.	The MacMillan Co., New York.
First Book of Forestry-----	Filibert Roth-----	Ginn & Co., Boston, Mass.
Farm Forestry-----	J. A. Ferguson-----	John Wiley & Sons, New York.
The Natural History of the Farm: A Guide to the Practical Study of the Sources of our Living in Wild Nature.	J. G. Needham-----	Comstock Publishing Co., Ithaca N. Y.
'Forestry in New England,' v. 1. Manual of Forestry for the North- eastern United States.	R. C. Hawley and A. F. Hawes.	John Wiley & Sons, New York.
Lessons in Forest Protection. (Bulletin 35, revised.)	G. H. Wirt-----	Department of Forests and Waters. Harrisburg, Pa.
Manual of Forest Insects. (Bulletin 5.)	H. B. Peirson-----	Maine Forest Service, Augusta, Me.
List of Available Entomological Publi- cations.	-----	Department of Agriculture, Wash- ington, D. C.

¹ Publication may only be obtained by purchase from Superintendent of Documents, Government Printing Office, Washington, D. C., at prices indicated.

Title	Author	Publisher and place of publication
Price List 41, Insects.....	-----	Superintendent of Documents, Government Printing Office, Washington, D. C. (Free.)
Protect White Pine from Blister Rust Misc. Pub. 22, Bureau of Plant Industry.	J. F. Martin pathologist.	Department of Agriculture, Washington, D. C.
Protect Western White Pine and Sugar Pine from Blister Rust, Misc. Pub. 23, Bureau of Plant Industry.	do.....	Do.
Manual of Tree Diseases.	W. H. Rankin	The MacMillan Co., New York.
Forestry Lessons on Home Woodlands. (Department Bulletin 863.)	W. R. Mattoon and A. Dille.	Department of Agriculture, Washington, D. C.
Forestry and Farm Income. (Farmers' Bulletin 1117.)	A. F. Hawes	Do.
Making Woodlands Profitable in the Southern States. (Farmers' Bulletin 1071.)	W. R. Mattoon	Do.
Cooperative Marketing of Woodland Products. (Farmers' Bulletin 1100.)	A. F. Hawes	Do.
Growing and Planting Hardwood Seedlings on the Farm. (Farmers' Bulletin 1123.)	C. R. Tillotson	Do.
The Care and Improvement of the Farm Woods. (Farmers' Bulletin 1177.)	do.....	Do.
Measuring and Marketing Farm Timbers. (Farmers' Bulletin 1210.)	W. R. Mattoon and W. B. Barrows.	Do.
The Windbreak as a Farm Asset. (Farmers' Bulletin 1405.)	C. G. Bates	Do.
Growing and Planting Coniferous Trees on the Farm. (Farmers' Bulletin 1453.)	C. R. Tillotson	Do.
Growing Pine Timber for Profit in the South. (Miscellaneous Publication 24.)	Compiled by Forest Service.	Do.

III. STUDY OF FOREST PRODUCTS

1. FOREST PRODUCTS OF THE NATION

Make a study of the various forest products of the whole country, such as: Lumber—lumber-producing regions, important species, products, lumbering operations, importance of industry.

Naval stores—section of country noted for production; species of trees producing crude gum or resin; how resin is obtained from trees; process of distillation; products, pitch, tar, turpentine, and rosin.

Pulp and paper—woods used in the manufacture of wood pulp; various processes in manufacture; how paper is made from wood pulp; quantity of wood needed and used in industry.

Fuel wood, ties, posts, poles, etc.

Tannin extract—species producing; bark or wood; extent of industry; processes.

Maple sugar and sirup.

Distillation of wood.

2. FOREST PRODUCTS AND WOOD-USING INDUSTRIES OF YOUR STATE OF YOUR LOCALITY

3. MAKE AN EXHIBIT OF SOME OF THE DIFFERENT FOREST PRODUCTS OF YOUR LOCALITY

4. MATERIAL SUITABLE FOR STUDY OR REFERENCE

Title	Author	Publisher and place of publication
Timber Growing and Logging Practice in the California Pine Region. (Department Bulletin 1402.)	S. B. Show and W. B. Greeley.	Department of Agriculture Washington, D. C.
Timber Growing and Logging Practice in Central Hardwood Region. (Department Bulletin 1491.)	C. R. Tillotson and W. B. Greeley.	Do.
Timber Growing and Logging Practice in the Douglas Fir Region. (Department Bulletin 1493.)	T. T. Munger and W. B. Greeley.	Do.
Timber Growing and Logging Practice in the Lake States. (Department Bulletin 1496.)	R. Zon and W. B. Greeley.	Do.

Title	Author	Publisher and place of publication
Timber Growing and Logging Practice in the Western White Pine and Larch-Fir Forests of the Northern Rocky Mountains. (Department Bulletin 1924.)	Elers Koch, R. N. Cunningham, and W. B. Greeley.	Department of Agriculture, Washington, D. C.
Harvesting Timber Crops in the National Forests of the East and South. (Miscellaneous Circular 75.)	R. M. Evans-----	Do.
Logging; the Principles and General Methods of Operation in the United States.	R. C. Bryant-----	J. Wiley & Sons, New York.
Lumber, its Manufacture and Distribution.	-----do-----	Do.
The Practical Lumberman (Containing log tables and grading rules.)	Bernard Brereton-----	Bernard Brereton, Tacoma, Wash.
How Lumber is Graded (Department Circular 64.)	H. S. Betts-----	Department of Agriculture, Washington, D. C.
Forest products, their manufacture and use; Embracing the Principal Commercial Features.	N. C. Brown-----	J. Wiley & Sons, New York.
Lumber and its uses-----	R. S. Kellogg-----	U. P. C. Book Co. (Inc.), New York.
America and the World's Woodpile. (Cir. 21.)	R. Zon and W. N. Sparhawk.	Department of Agriculture, Washington, D. C.
Naval Stores; History, Production, Distribution, and Consumption.	Thomas Gamble-----	Review Publishing & Printing Co., Savannah, Ga.
Naval Stores; Production, Consumption and Distribution. (Trade Information, Bulletin 454).	G. H. Priest, jr-----	Department of Commerce, Washington, D. C.
Pulpwood and Wood Pulp in North America.	R. S. Kellogg-----	McGraw-Hill Book Co. (Inc.), New York.
Wood Pulp and Its Uses-----	C. F. Cross, C. J. Bevan, and R. W. Sindell.	D. Van Nostrand, New York.
How the United States can Meet Its Present and Future Pulp-Wood Requirements. (Department Bulletin 1241.)	E. H. Clapp and C. W. Boyce.	Department of Agriculture, Washington, D. C.
The Suitability of American Woods for Paper Pulp. (Department Bulletin 1485.)	S. D. Wells and J. D. Rue.	Do.
News Print, the Origin of Paper Making and the Manufacturing of News Print.	W. E. Haskell-----	International Paper Co., New York.
Tanning Materials-----	F. P. Veitch-----	Cyclopedia of American Agriculture, 2: 623-929.
Tanning Materials Survey, Part I. The Problem of Our Commercial Independence in Tanning Materials (Trade Information Bulletin 167.)	-----	Department of Commerce, Washington, D. C.
Tanning Materials Survey. Part III. Quebracho. (Trade Information Bulletin 295.)	H. M. Hoar-----	Do.
Production of Maple Sirup and Sugar. (Farmer's Bulletin 1366.)	A. H. Bryan, W. F. Hubbard, and S. F. Sherwood.	Department of Agriculture Washington, D. C.
The Production of Maple Sirup and Sugar in New York State (Cornell Extension Bulletin 167.)	G. H. Collingwood, J. A. Cope, and M. P. Rasmussen.	New York State College of Agriculture, Ithaca, N. Y.
Maple-Sugar and Maple-Sirup-----	J. L. Hills-----	Cyclopedia of American Agriculture 2: 427-434.

IV. STUDY OF WOODS AND WOOD STRUCTURE

1. LEARN TO CLASSIFY WOODS AS HARDWOODS AND SOFTWOODS

2. STUDY STRUCTURE OF CROSS SECTION OF TREES

Bark; sapwood; heartwood; pith; annual rings; spring and summer woods pores; pith rays.

3. WHAT IS THE GRAIN OF WOOD?

Study influence of knots, and methods of sawing.

4. WHAT ARE THE PHYSICAL PROPERTIES OF WOOD?

Learn strength, durability, shrinkage, weight, etc., of the different species. Wood preservation and substitutes.

5. PREPARE AN EXHIBIT FOR SCHOOL OR LIBRARY OF SPECIMENS OF LOCAL WOODS

Labeling as to what they are, where found, and what used for.

6. MAKE A SUITABLE CASE FOR HOLDING SUCH A SCHOOL EXHIBIT



FIGURE 2.—FUTURE TAXPAYERS LEARNING WHY AND HOW TO HAVE THRIFTY FORESTS

A, Agricultural high-school boys planting slash pine on school grounds; B, 4-H club members on tree identification hike with forest ranger; C, Boy Scouts help forest officers in fighting fire, D, high-school girls do their bit in planting school grounds; E, 3-year-old slash pine protected from fire on Boy Scout tract; F, slash pine grown from seed on Boy Scout tract.

7. MATERIAL SUITABLE FOR STUDY OR REFERENCE

Title	Author	Publisher and place of publication
The Principal Species of Wood: Their Characteristic Properties.	C. H. Snow.....	J. Wiley & Sons, New York.
The Properties and uses of Wood.....	A. Koehler.....	McGraw-Hill Book Co. (Inc.), New York.
Identification of the Economic Woods of the United States, Including a Discussion of the Structural and Physical Properties of Wood.	S. J. Record.....	J. Wiley & Sons, New York.
The Identification of Furniture Woods. (Miscellaneous Circular 66.)	A. Koehler.....	Department of Agriculture, Washington, D. C. Price 25 cents.
Wood and other Organic Structural Materials.	C. H. Snow.....	McGraw-Hill Book Co. (Inc.), New York.
Guidebook for the Identification of Woods used for Ties and Timbers (Miscellaneous RL-1.)	A. Koehler.....	Department of Agriculture, Washington, D. C. Price 25 cents. ¹
Mechanical Properties of Woods Grown in the United States. (Department Bulletin 556.)	J. A. Newlin and I. R. C. Wilson.	Department of Agriculture, Washington, D. C. Price 10 cents. ¹
The Seasoning of Wood. (Department-Bulletin 552.)	H. S. Betts.....	Do.
The Preservation of Structural Timber..	H. F. Weiss.....	McGraw-Hill Book Co. (Inc.), New York.

¹ Publications may only be obtained by purchase from the Superintendent of Documents, Government Printing Office, Washington, D. C., at prices indicated.

V. GAME PROTECTION AND PROPAGATION

1. LEARN TO KNOW THE ANIMALS AND BIRDS OF YOUR REGION, THEIR CHARACTERISTICS AND LIFE HABITS
2. LEARN TO KNOW THE PRINCIPAL PREDATORY AND OTHER HARMFUL ANIMALS OF YOUR LOCALITY
3. COOPERATE WITH GAME WARDENS IN GAME PROPAGATION, PHEASANT HATCHING, ETC.
4. COOPERATE WITH GAME WARDENS IN STOCKING STREAMS WITH FISH

5. MATERIAL SUITABLE FOR STUDY OR REFERENCE

Title	Author	Publisher and place of publication
Wild Animals of North America, Intimate Studies of Big and Little Creatures of the Mammal Kingdom.	E. W. Nelson.....	National Geographic Society, Washington, D. C.
Wild Life Conservation in Theory and Practice.	W. T. Hornaday.....	Yale University Press, New Haven.
Game Protection and Propagation in America.....	H. Chase.....	J. B. Lippincott Co., Philadelphia.
Propagation of Wild Birds.....	H. K. Job.....	Doubleday, Page & Co., New York.
Useful Birds and Their Protection.....	E. H. Forbush.....	Massachusetts State Board of Agriculture [Boston, Mass.].
Price List 39, Birds and Wild Animals.....		Superintendent of Documents, Government Printing Office, Washington, D. C. (Free.)
List of Available Biological Publications.....		Department of Agriculture, Washington, D. C.
Price List 21, Fishes.....		Superintendent of Documents, Government Printing Office, Washington, D. C. (Free.)
List of Available Publications.....		Department of Commerce, Washington, D. C.

VI. RECREATION

1. FOREST CAMPS

Select a camp to be named after the club and handled by it, i. e., raise money for its development, management, etc. This can be used either privately as a club camp, or can be made into a tourist camp to become a source of revenue to the club.

2. SANITATION

Assist local authorities in bringing about proper sanitary practices by the public at forest or other public camps, etc.

3. GOOD MANNERS IN THE FOREST

Prevent unnecessary destruction of wild flowers and shrubs and the hiding or marring of beauty along highways by billboards.

Teach campers and picnickers to leave their camps and picnic places clean and to destroy or bury all refuse.

VII. FOREST PROTECTION

1. CAMP FIRES

Learn how to build a camp fire properly and how to put it out; give public demonstration of this or show in exhibits and window displays (Scouts in connection with "fire-making" stunt).

2. LOOKOUT AND PATROL

Secure permission to establish summer camps in national or State forests and offer to assist local forest officers in fire patrol and lookout work, if needed.

Put out small, neglected camp fires.

Possibly older boys assist in fighting fires by acting as water boy, carrying messages, packing, etc. First secure permission to do this.

3. FIRE-LAW ENFORCEMENT

Caution campers to put out camp fires and to be careful with matches and tobacco.

Report careless campers and other violators of fire laws; and help to secure evidence for conviction—auto license number, description of party, clues, supporting facts, etc.

4. TRAIL WORK

It may be possible, in certain cases, for clubs of older boys to work on light forest-trail construction or maintenance. Take up first with local, State, or Government forest officers.

5. SIGN POSTING

Offer to assist rangers and State fire wardens in posting direction and information signs.

Prevent destruction or defacement of such forest and fire-warning signs.

VIII. PUBLIC EDUCATION

1. DISPLAYS

Install forestry and forest fire prevention exhibits in schools and libraries.

Install forestry and forest fire prevention window displays.

Assist local forest officers in getting up and installing material for exhibit at county and local fairs.

2. TALKS

Make forestry or forest fire prevention talks at schools or before boys and girls clubs on special occasions.

3. FOREST WEEK OR ARBOR DAY

Take charge of Forest Week or Arbor Day program and displays in local schools.

Plant trees with appropriate ceremonies.

Stage a forestry pageant or play.

4. NEWS ITEMS

If the club has a newspaper correspondent, as many 4-H clubs have, he should include forestry items in his news stories.

Give particular attention to getting publicity for any forestry activities carried on by the club.

Contribute items, or conduct a forestry column, in the local high-school paper.

5. PHOTOGRAPHS

Get good action photographs (3A or larger, if possible) of club activities in forestry.

Get similar good photographs of forest game and wild life, well-managed woods, neglected and overgrazed woods, forest-tree studies, recreational use of the forest, forest fires and results, forest industries, forest freaks, etc. The best of such pictures might be entered in photograph contests, thus possibly raising funds for club work.

Make up a club exhibit or window display of best photographs.

6. MISCELLANEOUS

Get local business men to print forest-fire warnings in their advertising just before and during the fire danger season.

Help local forest officers to distribute educational posters and other material, during special campaigns.

Hold a "tag day" or "pledge day" at the beginning of the fire season and get every one tagged or pledged to help prevent forest fires.

Arrange for various forestry contests in schools, or in club, such as essay, slogan, or poster contests, tree-naming contests, etc.

Plan annual field day or trip, under proper supervision, to some point of forest interest to get better acquainted with your forest friends.

Write to your State forester; through your county agent to the extension service of your State college of agriculture; to the Forest Service, Washington, D. C.; to the American Forestry Association, 1523 L Street, N. W., Washington, D. C.; to the American Tree Association, 1214 Sixteenth Street, N. W., Washington, D. C.; or to any other organization that you think might help you, asking that your club be put on their mailing lists for forestry material.

Raise funds and subscribe to magazines such as *The Forest Worker*, distributed by the Superintendent of Documents, Government Printing Office, Washington, D. C., at 25 cents a year; *American Forests* and *Forest Life*, published by American Forestry Association; and *Nature Magazine*, put out by the American Nature Association, for the club or school library.

Make a collection of a number of books and other publications dealing with forestry subjects to be used as reference in club study or school work.

C. CALENDAR OF CLUB ACTIVITIES

This calendar by no means contains all of the activities listed in section B. It is intended merely to show how the various lines of work may be grouped and how they will fit into the different seasons. Clubs will probably want to change the outline to meet their individual needs. Wherever possible they should stress such activities as tree planting, woodland management, fire prevention, cooperation with Federal and State officers, and all phases of woods work. Clubs in cities having few or no facilities for doing this will necessarily fall back upon other activities.

JANUARY

Survey forestry movement in the United States and study existing forest conditions.

Visit a lumbering operation or sawmill. Learn the story of wood from the forest to the finished product.

Study different kinds of woods, their uses and physical properties.

Make a collection of wood specimens; label and mount them for exhibition.

Tree study—winter buds. Collect buds and twigs for observation.

FEBRUARY

Make a study of the forestry work of your State.

Study the miscellaneous products of the forest—paper, maple sugar, naval stores, tanbark, etc. If there is a sugar bush, turpentine still, or paper mill in your locality, pay a visit to it.

Tree study—outline life history of a tree's growth from a cross section cut from it. Discuss parts of tree shown in cross section.

MARCH

Study the forestry needs of your locality.
Make plans for planting work to be done by the club.
Plan club fire-prevention activities for the spring, summer, and fall.
Tree study—learn different parts of a tree, function of each, and how a tree grows.

APRIL

Arrange programs for Arbor Day and Forest Week which may include a part of the spring planting to be undertaken by the club.
Study the making of a forest nursery and start work.
Tree study—flowers and early fruits.

MAY

Make plans for public-education campaign in fire protection, camping, and forest good manners.
Continue planting operations.
Plant nursery bed.
Take hike into woods for tree identification, measuring height of trees, etc.
Collect seeds of white elm, silver maple, etc.
Tree study—pollination methods.

JUNE

Begin work in public education.
Visit cut-over lands for study.
Write up results of trip for local paper.
Take photographs of trees in full leaf.
Make plans for club camp or outing (Southern States).
Tree study—late-blooming trees and seeding of forest trees. Continue study of tree identification.

JULY

Plan club exhibits to be shown at fall fairs.
Collect and mount leaves and twigs.
Make plans for club camp or outing (Northern States).
Hold club camp or outing (Southern States).
If necessary assist Federal or State forest officers in fire-prevention work.
Tree study—the oaks.

AUGUST

Prepare exhibits for fairs.
Hold club camp or outing (Northern States).
Continue assistance in fire-prevention work.
Care for nursery.
Tree study—the maples, the oaks, the pines, or other tree group.

SEPTEMBER

Send exhibits to fairs.
Study method of collecting and extracting seeds of coniferous trees.
Begin farm-woodland study by selecting a woods for thinning.
Make a map of this woods and estimate the amount of timber.
Continue fire work.
Tree study—the conifers.

OCTOBER

Make further study of woods tract selected for thinning, determining what it will produce, which species should be removed, etc. Cut fuel wood.
Make plans for other winter work.
Cooperate with game wardens in enforcing game laws.
If your State has a fall Arbor Day, plan for its celebration.
Tree study—the nut trees.

NOVEMBER

Continue thinning of farm woodland.
Study market conditions and marketing.
Take photographs of thinning work.
Tree study—bark. Collect bark specimens.

DECEMBER

Market logs and other material cut from farm woodland.

If the woods under study or the land belonging to any club member is growing a heavy crop of young conifers, they can be thinned for Christmas trees. Before the trees are sold, each should be marked to show it has been properly cut.

Make a survey of the year's work. Each member should make a report of the work he has done.

Take photographs of winter forests and wild life.

Make plans for next year's work.

Tree study—identify trees by their bark.

D. SOME BOOKS AND OTHER PUBLICATIONS SUITABLE FOR USE OF FORESTRY CLUBS

1. STATE TREE GUIDES

The forest-tree guides that have been prepared for a number of the States would be useful to any forestry club. These booklets, which are written for popular use, give short descriptions of the common tree species found in the individual States and are illustrated by cuts showing the leaf, fruit, and buds of the different species. The States for which they have been prepared are given below, together with the agencies distributing the guides.

Arkansas.—The Director of Extension Service, Fayetteville.

Connecticut.—The State Forester, Hartford.

Delaware.—State Department of Education, Dover.

District of Columbia.—American Forestry Association, 1523 L Street NW., Washington, D. C. (For sale only; 15 cents.)

Florida.—State Forester, Tallahassee.

Georgia.—The Director of Extension Service, Athens.

Illinois.—The Chief Forester, Springfield.

Indiana.—American Tree Association, 1214 Sixteenth Street NW., Washington, D. C. (Sent only to principals of schools, librarians, scoutmasters, leaders of Girl Scout troops, camp fire groups, etc.)

Iowa.—The Director of Extension Service, Ames.

Kentucky.—Commissioner of Agriculture, Frankfort.

Louisiana.—Superintendent of Forestry, New Orleans.

Maryland.—The State Forester, 1411 Fidelity Building, Baltimore.

Massachusetts.—American Tree Association, 1214 Sixteenth Street NW., Washington, D. C. (Sent only to principals of schools, librarians, scoutmasters, leaders of Girl Scout troops, Camp Fire groups, etc.)

Michigan.—Same as above. Also "Michigan Trees." by Charles Herbert Otis, University Bulletin, University of Michigan, Ann Arbor.

Mississippi.—Prof. J. N. Beal, Mississippi Agricultural and Mechanical College, A. and M. College, Miss.

New Jersey.—American Tree Association, 1214 Sixteenth Street NW., Washington, D. C. (Sent only to principals of schools, librarians, scoutmasters, leaders of Girl Scout troops, Camp Fire groups, etc.)

New York.—Same as above.

North Carolina.—The State Forester, Raleigh.

Ohio.—American Tree Association, 1214 Sixteenth Street NW., Washington, D. C. (Sent only to principals of schools, librarians, scoutmasters, leaders of Girl Scout troops, Camp Fire groups, etc.)

Oklahoma.—State Forester, Oklahoma City, Okla.

Pennsylvania.—Forest Trees of Pennsylvania, by J. S. Illick, The Times Tribune Co., Altoona. (For sale only; 50 cents.)

South Carolina.—Director of Extension Service, Clemson College.

Tennessee.—State Forester, Nashville.

Texas.—Director of Texas Forest Service, College Station

Virginia.—State Forester, Charlottesville.

2. SOME GENERAL PUBLICATIONS

Title	Author	Publisher and place of publication
Tree Ancestors; A Glimpse into the Past.	E. W. Berry.....	Williams & Wilkins Co., Baltimore, Md.
The Tree Book; A Popular Guide to a Knowledge of the Trees of North America and to Their Uses and Cultivations.	Julian Ellen Rogers....	Doubleday, Page & Co., New York.
Check List of Forest Trees of the United States. (Miscellaneous Circular 92.)	G. B. Sudworth.....	Department of Agriculture, Washington, D. C. Price 40 cents. ¹
Forest Trees of the Pacific Slope.	do.....	Department of Agriculture, Washington, D. C. Price 60 cents. ¹
Trees in Kansas.....		State Board of Agriculture, Topeka, Kans.
The World's Food Resources.....	J. R. Smith.....	H. Holt & Co., New York.
Trees, Stars, and Birds; A Book of Outdoor Science.	E. L. Moseley.....	World Book Co., Yonkers, N. Y.
The Forest Resources of the World.....	R. Zon and W. N. Sparhawk.	McGraw-Hill Book Co. (Inc.), New York.
The Forestry Primer, 1876, 1926.....	C. L. Pack.....	American Tree Association, Washington, D. C.
The Nature Almanac; a Handbook of Nature Education.	A. N. Pack and E. L. Palmer.	Do.
Forestry in the South.....	P. S. Bunker.....	Do.
The Forest Poetic.....	C. L. Pack.....	Do.
Forest Fires in Minnesota.....	J. A. Mitchell.....	Minnesota Forest Service, Minneapolis, Minn.
Forest Fire Prevention Handbook for School Children. (Miscellaneous Circular 79.)		Department of Agriculture, Washington, D. C.
Forest Fire Prevention Handbook for the Schools of Arizona. (Miscellaneous Circular 88.)		Do.
Forest Fire Prevention Handbook for the Schools of New Mexico. (Miscellaneous Circular 89.)		Do.
Forest Fire Prevention Handbook for the Schools of Oregon. (Miscellaneous Publication 20.)		Do.
Forestry as a Profession.....	E. A. Sherman.....	Do.
Forests and Floods. (Department Circular 19.)	Ward Shepard.....	Do.
Slash Pine. (Farmers' Bulletin 1256.)	W. R. Mattoon.....	Do.
Tree Planting in the Great Plains Region. (Farmers' Bulletin 1312.)	F. R. Johnson and F. E. Cobb.	Do.
Longleaf Pine Primer. (Farmers' Bulletin 1486.)	W. R. Mattoon.....	Do.
Arbor Day, its Purpose and Observation. (Farmers' Bulletin 1492.)	L. C. Everard.....	Do.
Loblolly Pine Primer. (Farmers' Bulletin 1517.)	W. R. Mattoon.....	Do.
Shortleaf Pine Primer. (Farmers' Bulletin 1534.)	do.....	Do.
Timber: Mine or Crop? (Yearbook, September, 886.)	W. B. Greeley, E. H. Clapp, H. A. Smith, R. Zon, W. N. Sparhawk, W. Shepard, and J. Kittredge, jr.	Forest Service, Department of Agriculture.
New Ideas for Out of Doors; the Field and Forest Handy Book.	Dan Beard.....	C. Scribner's Sons, New York, N. Y.
The Boy Pioneers, Sons of Daniel Boone.	do.....	Do.
Forestry Almanac.....		American Tree Association, Washington, D. C.
The Boy with the U. S. Foresters.....	Francis Rolt-Wheeler.....	Lothrop, Lee & Shepard Co., Boston-Mass.
Our Vanishing Forests.....	A. N. Pack.....	The MacMillan Co., New York.
The School Book of Forestry.....	C. L. Pack.....	The American Tree Association, Washington, D. C.
"Timber".....	Harold Titus.....	A. L. Burt, New York.
The Flaming Forest; a novel of the Canadian Northwest.	James Oliver Curwood.	Grosset & Dunlap, New York.
Paul Bunyan.....	J. Stevens.....	Alfred A. Knopf, New York.
Brawny-man (Paul Bunyan series).....	do.....	Do.
Paul Bunyan and His Great Blue Ox.	W. C. Wadsworth.....	Geo. H. Doran Co., New York.
Paul Bunyan.....	E. Shephard.....	The McNeill Press, Seattle, Wash.
State Recreation—Parks, Forests, and Game Preserves.	Beatrice Ward Nelson.....	National Conference on State Parks (Inc.), Washington, D. C.
State Recreation (bulletin issued every six weeks giving latest developments in State parks, forests, and game preserves).		Do.

¹ Publications may only be obtained by purchase from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., at the prices indicated.

E. SOURCES OF INFORMATION

1. STATE FORESTRY DEPARTMENTS

- Alabama*.—State Forester, Montgomery, Ala.
Arizona.—No State forester. (District Forester, Forest Service, Gas & Electric Building, Albuquerque, N. Mex.)
Arkansas.—No State forester. (Extension Forester, 310 Federal Bank Building, Little Rock.)
California.—State Forester, Sacramento, Calif.
Colorado.—State Forester, Fort Collins, Colo.
Connecticut.—State Forester, Drawer 2115, Hartford, Conn.
Delaware.—State Forester, Dover, Del.
Florida.—State Forester, Tallahassee, Fla.
Georgia.—State Forester, Atlanta, Ga.
Idaho.—State Forester, Moscow, Idaho.
Illinois.—Chief Forester, Springfield, Ill.
Indiana.—State Forester, Indianapolis, Ind.
Iowa.—State Forestry Commissioner, Des Moines, Iowa.
Kansas.—State Forester, Manhattan, Kans.
Kentucky.—State Forester, Frankfort, Ky.
Louisiana.—Superintendent of Forestry, New Orleans, La.
Maine.—Forest Commissioner, Augusta, Me.
Maryland.—State Forester, 1411 Fidelity Building, Baltimore, Md.
Massachusetts.—State Forester, State House, Boston, Mass.
Michigan.—State Forester, Lansing, Mich.
Minnesota.—Commissioner of Forestry and Fire Prevention, St. Paul, Minn.
Mississippi.—State Forester, Jackson, Miss.
Missouri.—State Forester, Columbia, Mo.
Montana.—State Forester, Missoula, Mont.
Nebraska.—State Forester, Lincoln, Nebr.
Nevada.—No State forester. (District Forester, Forest Service, Ferry Building, San Francisco, Calif.)
New Hampshire.—State Forester, Concord, N. H.
New Jersey.—State Forester, Trenton, N. J.
New Mexico.—No State forester. (District Forester, Forest Service. Gas & Electric Building, Albuquerque.)
New York.—Superintendent State Forests, Albany, N. Y.
North Carolina.—State Forester, Raleigh, N. C.
North Dakota.—State Forester, Bottineau, N. Dak.
Ohio.—State Forester, Wooster, Ohio.
Oklahoma.—Secretary, Oklahoma Forest Commission, Oklahoma City, Okla.
Oregon.—State Forester, Salem, Oreg.
Pennsylvania.—State Forester, Harrisburg, Pa.
Rhode Island.—Chief, Bureau of Forestry, Providence, R. I.
South Carolina.—State Forester, Columbia, S. C.
South Dakota.—State Forest Supervisor, Custer, S. Dak.
Tennessee.—State Forester, Nashville, Tenn.
Texas.—Director, Texas Forest Service, College Station, Tex.
Utah.—No State forester. (District Forester, Forest Service Building, Ogden, Utah.)
Vermont.—Commissioner of Forestry, Montpelier, Vt.
Virginia.—State Forester, University, Va.
Washington.—Supervisor, Division of Forestry, Olympia, Wash.
West Virginia.—Chief Forest Fire Warden, Charleston, W. Va.
Wisconsin.—Superintendent State Forests and Parks, Madison, Wis.
Wyoming.—No State forester. (District Forester, either Forest Service Building Ogden, Utah, or Forest Service, Federal Building Denver, Colo.)

2. STATE EXTENSION FORESTERS

- Alabama*.—Extension Forester, Alabama Polytechnic Institute, Auburn, Ala.
Arkansas.—Extension Forester, 310 Federal Bank and Trust Building, Little Rock, Ark.
California.—Extension Forester, University of California, Berkeley, Calif.
Colorado.—Extension Forester, State Agricultural College, Fort Collins, Colo.
Connecticut.—Extension Forester, Connecticut Agricultural College, Storrs, Conn.

- Georgia*.—Extension Forester, State College of Agriculture, Athens, Ga.
Idaho.—Extension Forester, University of Idaho, Moscow, Idaho.
Illinois.—Extension Forester, University of Illinois, Urbana, Ill.
Iowa.—Extension Forester, Iowa State College of Agriculture, Ames, Iowa.
Louisiana.—Louisiana State University, Baton Rouge, La.
Maine.—Extension Forester, University of Maine, Orono, Me.
Maryland.—Extension Forester, University of Maryland, College Park, Md.
Massachusetts.—Extension Forester, room 519, State House, Boston, Mass.
Michigan.—Extension Forester, Michigan State College, East Lansing, Mich.
Minnesota.—Extension Forester, University of Minnesota, University Farm, St. Paul, Minn.
Mississippi.—Extension Forester, 510 Millsap Bldg., Jackson, Miss.
Nebraska.—Extension Forester, College of Agriculture, Lincoln, Nebr.
New Hampshire.—Extension Forester, University of New Hampshire, Durham, N. H.
New Jersey.—Extension Forester, State University of New Jersey, New Brunswick, N. J.
New York.—Extension Forester, College of Agriculture, Ithaca, N. Y.
North Carolina.—Extension Forester, States College Station, Raleigh, N. C.
North Dakota.—Extension Forester, Bottineau, N. Dak.
Ohio.—Extension Forester, Agricultural Experiment Station, Wooster, Ohio.
Pennsylvania.—Extension Forester, Pennsylvania State College, State College, Pa.
Tennessee.—Extension Forester, University of Tennessee, Knoxville, Tenn.
Texas.—Farm Forester, College of Agriculture, College Station, Tex.
Vermont.—Extension Forester, University of Vermont, Burlington, Vt.
Virginia.—Extension Forester, Virginia Polytechnic Institute, Blacksburg, Va.
West Virginia.—Extension Forester, West Virginia University, Morgantown, W. Va.
Wisconsin.—Extension Forester, University of Wisconsin, Madison, Wis.

3. SOME GOVERNMENT BUREAUS

Forest Service, Department of Agriculture, Washington, D. C. National forests, forestry, forest industries, forest trees, wood and its uses, etc. (Lists of publications, motion pictures, lantern slides, exhibits, and general educational material available.)

Extension Service, Department of Agriculture, Washington, D. C. 4-H clubs forest extension, etc.

Bureau of Plant Industry, Department of Agriculture, Washington, D. C. Shade and ornamental trees, tree diseases, and fungi.

Bureau of Biological Survey, Department of Agriculture, Washington, D. C. Birds, wild animals, conservation of game, game laws, etc.

Bureau of Entomology, Department of Agriculture, Washington, D. C. Insect injurious to trees.

Bureau of Fisheries, Department of Commerce, Washington, D. C. Varieties and propagation of fish; hatcheries.

Bureau of Foreign and Domestic Commerce, Department of Commerce, Washington, D. C. Manufacture, export, and import of lumber, paper, etc.

Geological Survey, Department of the Interior, Washington, D. C. Geology, mineral resources, coal, water supply, etc.

National Park Service, Department of the Interior, Washington, D. C. National parks, and monuments.

4. SOME PRIVATE ORGANIZATIONS

American Forestry Association, 1523 L Street NW., Washington, D. C.

American Green Cross, 428 Bradbury Building, Los Angeles, Calif.

American Nature Association, 1214 Sixteenth Street NW., Washington, D. C.

American Tree Association, 1214 Sixteenth Street NW., Washington, D. C.

Boy Scouts of America, 200 Fifth Avenue, New York, N. Y.

Camp Fire Girls, 41 Union Square, New York, N. Y.

Girl Scouts (Inc.), 670 Lexington Avenue, New York, N. Y.

Izaak Walton League of America, 536 Lake Shore Drive, Chicago, Ill.

National Conference on State Parks, Union Trust Building, Washington, D. C.

ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

April 4, 1929

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